THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

No. 242. SATURDAY, FEBRUARY 25, 1893. VOL. V.

THE INSTITUTE OF PREVENTIVE MEDICINE.

The communication we publish this week from Mr. Malcolm is most opportune. We, as a profession, were inclined rather too hastily to assume that a connection with the project must necessarily be of benefit to us. We are a poor profession, and our want of money prevents us from carrying out many schemes we recognise as desirable. If funds were forthcoming we should speedily establish scholarships, laboratories and other arrangements which would encourage study and research amongst our members. We recognise as keenly as other callings the value of past-graduate studies and we should like to utilise the talents and acquirements of our best men for the furtherance of veterinary science; at present there is no opportunity for this and no scope for the men who possess the necessary qualifications. In these days of hygienic and pathological research we are left behind by the medical men, who have great facilities for such work. We have still to tramp along the empirical ways when outbreaks of unknown diseases arise, or we have to leave the investigation to the trained experts who rank as medical men. If the diseases of animals never directly affected man we might put up with this position, only expressing our regret. As it is, the diseases of animals which are transmissible to man must be attended to, and the public approbation will be given to that calling which elucidates them. So far we have made no positive mistakes in these matters, and we venture to think that we have done good negative work by disproving some of the assertions and theories promulgated by human pathologists. This is not enough—we must show the public that we possess the qualifications necessary for their protection, and we must have the fact recognised that no one is so capable of investigating disease in animals as a veterinarian. The miserable fiascos which have been perpetrated in so-called investigations of eruptive diseases of the udders of cows and of the origin of diphtheria in animals, are proof positive of the unfitness of medical men for the sole conduct of such work. If justice is to be done to the owners of animals and to the human subject all investigations into the diseases of animals must be carried out jointly by medical men and veterinarians. It may be said that a scientific pathologist is quite capable of undertaking any research into disease, whether of animals or man. In reply we point to what has been done, and to the failures which have resulted. We may also claim that the man who alone has a full acquaintance with the clinical signs of disease in the domestic animals, has surely a knowledge indispensable to the successful prosecution of enquiries into the diseases which are supposed to be transmissible from animals to man.

In any Institute for the study of preventive medicine a veterinarian is a necessary officer. Outbreaks of disease in stock must be studied by both the human and veterinary expert if the truth is to be evolved from their researches. Will the proposed Institute of Preventive Medicine recognise this? If it does we may well subscribe to its foundation, but if we are only to be indirectly represented by one or two members on its Council we had better save our money, and look forward to the time when we can pursue investigations on our own account. The mere presence of two or three veterinarians upon the Council of the Institute means little. We allow the position would be an honourable one, and that it presents some features appealing to our social vanity, but that is not our aim. We desire to take part in the real work of investigation when disease affects animals, and unless this position can be attained we must decline to contribute to the funds of an Institute, good in itself, but affording no assistance to our natural ambition.

If we cannot obtain what we want from the Institute of Preventive Medicine we must save our funds for the time at which it will be possible to establish our own research laboratory. We cannot afford to be liberal—we must first be just to ourselves.

FOOT-AND-MOUTH DISEASE.

It is announced that another isolated outbreak of this plague has appeared at Hastings. We anticipate that the Board of Agriculture will speedily stamp it out, but it is curious that with existing regulations it should occur. It will be remembered that not many weeks ago an outbreak occurred in London which was immediately smothered. Before that an equally unaccountable outbreak took place at Leith. Three outbreaks then have occurred not traceable to any imported animals, and yet we have a total prohibition of live stock from all infected countries. If we are liable to this unpreventible introduction of disease what argument can be adduced against the importation of live stock for slaughter at the port of landing. Such places as Newcastle or Deptford, where every precaution is taken in the examination of animals and where nothing alive passes the boundaries, may well complain of regulations which injure their trade but do not prevent the introduction of disease.

CASES AND ARTICLES.

"MILK FEVER" OR "PARTURIENT HYPERÆMIA."

By Robert Barron, M.R.C.V.S.

Although many descriptions of this interesting subject have been given and ingenious explanations offered I do not think the sequelæ to the acute stages of the affection have received adequate attention.

Hæmo-Albuminuria. Many observant veterinary surgeons must have noticed a bloody condition of the urine which frequently supervenes after the cow has recovered from the comatose stage. Perhaps on the third day after attack when the animal can again hold up her head, and will drink water but cannot stand, this symptom appears. The colour of the urine varies from a light claret to a deep black red. I have tested typical specimens and examined them under the microscope. Albumen and broken down red corpuscles were present in large quantities. This condition of the urine is a most unfavourable symptom and seldom or never does the cow recover after its appearance. The temperature rises to 103° or 104° when the urine gets bloody, the patient looks sickly, the respirations become frequent, she lingers a day or two then dies. This hæmo-albuminuria is due, I think, to acute congestion of the kidneys, and supports the view which I hold that the disease is of vascular origin. Occasionally the urine becomes clear again, but the cow does not recover. Recovery after the appearance of bloody urine in a case of milk fever I have heard of, but never seen.

Œdema of the hind limb. This symptom appears under the same conditions as the bloody urine, generally a little later. It is almost equally unfavourable. A puffy swelling can be seen and felt about the hock and lower end of the tibia; it increases gradually in an upward direction and may become double the size of its fellow. Sometimes both limbs are affected. This swelling is due to serous transudation from the veins of the limb. The weight of the animal's body, often more continuous on one leg than the other, interferes with the circulation. Other conditions in existence are weak heart-force, quiescence, dilated vessels and retarded flow of blood, all of which tend to produce venous hyperæmia. The result is the œdematous condition of the limb. If long continued venous thrombosis would occur and has, I believe, been found post-mortem. This condition much resembles that known as phlegmasia dolens in the human subject and is not produced by any accident or strain. Practically, whenever either bloody urine or swelling of one or both hind limbs appears as described, I have no hesitation in advising immediate slaughter.

Acute congestion of lungs. Cases of milk fever which seem to be of a mild character not infrequently terminate fatally in a few hours after attack from pulmonary apoplexy. The temperature may be normal when taken, say, in the morning; in the afternoon the cow is dying from asphyxia with a temperature of 107°. I have seen several of these cases where there has been no evidence of choking. This acute congestion seems to result from an attempt on the part of the nervous mechanism to provide for vascular excess. The cow has an ordinary attack of milk-fever in the morning and dies in the afternoon from pulmonary apoplexy.

These three conditions noticed lead one to the idea that the vascular system is seriously deranged in milk fever.

Etiology. The artificial life and excessive development of the lacteal and vascular systems of dairy cows produce a condition of general hyperæmia at the period of parturition, which may readily become pathological. Pathological hyperæmia is, in my opinion, the primary cause of milk fever. Other conditions may aid in its production. I do not think the partial or complete emptying of the udder has any injurious influence.

Pathology. The rapid and easy removal of the fœtus causes a large curtailment of the maternal circulation. The sub-lumbar vessels dilate owing to sudden removal of pressure. General hyperæmia being already present the vaso-motor system is severely taxed in order to maintain tonus. Hyperæmia of the sub-lumbar vascular area gradually increasing reaches a point at which the vaso-motor nerves and centres are injured and exhausted. Pressure of dilated capillaries on motor centres interferes with conduction of nerve force, and we note symptoms of "paddling" and loss of power over the hind limbs. The whole vaso-motor mechanism is over-strained and loses control. This loss of control is first experienced in the soft tissues of the cerebro-spinal symptom, which becomes congested. Symptoms of excitement delirium, etc. attest the existence of cerebro-spinal congestion. Inhibition of the vaso-tonic action of the sympathetic from pressure or exhaustion is followed by dilation of vessels and serous effusion. During this congestive stage a capillary may be ruptured in the brain and death result from true apoplexy. The great result however of this injury to the vaso-motor centres is partial or complete removal of vaso-constrictor power. This of course is followed by vascular dilation especially of the great abdominal veins. The cow practically bleeds into her own vessels, temperature is reduced and kept low, the brain becomes decidedly anæmic. The animal is now comatose, pulse frequent and feeble, and death at hand. If the primary injury to the vaso-motor centres be not too severe this great vascular dilation becomes nature's cure. The vascular excess is provided for and time given for absorption of effusion. The nerve centres regain their power gradually and the cow rises again, to all appearance as well as before. No organic lesion has occurred, the derangement though severe being transitory.

Post-mortem. The changes seen after death depend on the stage at which the animal died or was killed. Often they are very indefinite. Blood clots on the brain, serous effusion into the ventricles and distention of abdominal veins have all been noted. Such as they are they correspond very markedly with those described as the result of

hyperæmia, which are often transitory and of a negative character.

Treatment. Chloral hydrate, alcohol and potas. brom. I have found most successful. These three drugs have several powerful actions in common. In large doses they are hypnotic, sedatives of cerebro-spinal system, depressors of vaso-motor and vital centres; they all produce general vascular dilation. My object in prescribing them is to produce general vascular dilation in a safer and more soothing manner than the disease pursues. This opens a curious question in therapeutics which space forbids me to enter upon.

Probably, like other writers on this subject, I may find there is some glaring objection to the views which I have very roughly sketched. I hope, however, they will prove of interest to the readers of *The Veterinary Record.*

"OLD AND WORN OUT."

By Vety.-Major Adams, Remount Depôt, Hosŭr.

A rather coarse-bred Australian mare was imported at the end of the year 1872, and was then purchased at Madras, as a Remount for the Royal Artillery, being at the time a five-year-old. The mare was issued to the service in September, 1873, as a wheel horse, to a Battery of Field Artillery; she was cast in 1882 without any medical history, being too slow for the work required of her, she was then 15 years old. She was now purchased for work on the farm at the Remount Depôt, Hosŭr. This consisted chiefly of cart work, with ploughing and taking a turn in the mowing machine in the season.

This work she continued to do for 10 years, till last year, when she was found to be unequal to it, and was put to light grubbing work. Her teeth were examined and found to be irregular and sharp at the edges, the teeth were rasped and the mare was ordered the most succulent food procurable. She worked for yet one more year, when she became the frequent subject of colic, due to all food, whether gram or grass, being bolted without being properly masticated.

The mare had now become very thin and was quite unfit for any work, I therefore recommended that she be destroyed, being 26 years of age and completely worn out.

I made a post-mortem examination, and it is interesting to note that the mare was constitutionally a sound animal, and there was no trace of organic disease. The carcase was very lean, the coat was harsh and rough, but there was no trace of skin disease of any kind. The liver was firm and healthy, weight 10½lbs.; the kidneys were, perhaps, a little small but healthy, weight 1¼lbs. each; the spleen showed no sign of disease but was of light weight, 2½lbs. We now come to the true cause of failing strength and mal-nutrition viz., the state of the teeth. After maceration I made a minute examination, and from my notes I am able thus to generalise the condition. The molar teeth presented a curious state of irregularity, in outline giving the appearance of a switchback railway. The fangs of the molar teeth were much absorbed, especially those of the 4th and 5th teeth on each side, those on the left side being loose at the time of death fell out during maceration. The fangs of the third molar tooth appeared the longest and these teeth were consequently firmer than the others. The crowns of both the 2nd and 3rd molar teeth on each side were much elongated, and there was proportionate wear in the corresponding teeth in the lower jaw, the crowns of which were completely worn away, the fangs only remaining. The first molar in the upper jaw on the left side showed carious disease and there was a large cavity in the anterior portion of the crown. The incisors were naturally elongated, but in a fairly good state of preservation.

The mare having been nine years in the wheel of an artillery gun I was curious to see if there was any disease in the hock joints engendered by the severe nature of this work; after maceration I found the joints to be perfectly healthy. The fore limbs were also free from disease.

This is, I consider, a remarkable instance of long service, especially when it is remembered that during the mare's service she has not been stabled, but always picketed in open lines exposed to all vicissitudes of a tropical climate, having to endure prolonged extreme heat and heavy rain. Having been in the Madras Presidency, the mare's grain food has always been coolti which is prepared by being boiled. All these conditions are recognised as being prejudicial to the health of the horse, predisposing to diseases of the liver, skin and other organs, yet they had no effect on this mare, and she died at 26 years of age after 21 years service a constitutionally sound animal, but "old and worn out."

CASES OF AZOTURIA.

By E. H. Curbishley, M.R.C.V.S.

Case I.—Brown mare, five years old, and worked in a greengrocer's cart. This mare showed no signs of illness after the morning's work, was taken out after a short rest at dinner time and got about three miles from home when she suddenly fell down, scattering the greengrocer's stock-in-trade all around her. She broke out into a profuse sweat and fought very hard, but being quite unable to rise was dragged to a loose-box on a gate.

The owner asked me to attend at once, and on my arrival I found the muscles of the loins and hind quarters quite hard, and all the symptoms of well-marked azoturia. I at once passed the catheter which allowed the escape of a large quantity of coffee-coloured urine, gave a purgative ball, packed the mare up, and left her with instructions to the attendant to give a dose of medicine (sps. ether. nit.) every 3 or 4 hours. I passed a catheter night and morning for the next few days, and at the same time prescribed ether. nit. this was all the treatment the mare got. On the 3rd day she could raise herself a little, and on the 4th could stand for an hour

or so at a time; after this she improved rapidly, and was ready for work in about 14 days.

I allowed no food except bran mashes and hay until she was fit for outdoor exercise.

Case II.—Bay mare, seven years old, the property of a butcher. Symptoms similar to 1st. except that though she became very weak behind she did not lose power to stand. Adopted same treatment as before, and the mare was ready for work in about a week.

Case III.—Dun mare, aged, and in foal; after going about 1½ miles from home the owner thought the bit hurt, and made his coachman get down to examine it, but finding her begin to sweat and blow and drag her hind legs, they turned for home, and with difficulty arrived there. I happened to call to see another horse just as the mare got in, and gave similar treatment as in Case I.

This mare made a good recovery and was not worked again, due to being in foal, was turned to grass and is expected to foal early this spring.

Believing (as set forth in Principal Williams' book on Veterinary Medicine) that azoturia is a dietetic disease, I made careful enquiry as to the feeding and general management, and found:—

Case I. At hard regular work, and getting beside a small allowance of corn a bundle of green clover 2 or 3 times a day.

Case II. At hard work, and receiving same quality and amount of corn as for several years.

Case III. Not working much, and not getting much corn, but on morning in question got a large feed of corn on account of the journey she was expected to make.

I should like to ask if the feeding was *quite* sufficient to cause the disease, and whether it is anything more than a coincidence that all the cases were in *mares*, also whether there is any reason why they should be more susceptible than horses. Neither of the 1st. or 2nd. cases were at the period of œstrum.

QUITTOR AND ITS TREATMENT.

By Jonathan Bunnell, M.R.C.V.S., Heywood.

Having read the article by Mr. Dacre on Quittor in your valuable paper of January 21st, I must say that I feel very much interested in it, as it is something similar to my own treatment in more ways than one. I have just had two cases, both in heavy cart horses, caused by treads, and I am pleased to say both have made very nice recoveries. I first of all take the shoe off and have the sole pared out thin, then I have the wall pared and rasped away from the heel to nearly the toe on that side of the foot underneath the quittor, all that can be taken off with either knife or rasp, until the horn is so thin you can spring it with your thumb. Then I have a flat three-quarter shoe put on to come no further back than where it can be nailed on the inside, this leaves the foot easy to dress afterwards and causes no pressure under the sore part. Now I put the animal into the stocks, haul up the leg and bind the rope round it just in the same way as if the horse was going to be shod in the stocks and I find that this rope acts like a tourniquet. I next pass my probe into the sinus and leave it there, then I take a sharp pointed hot iron and insert it through the wall as low down as the level of the sole and carry it upwards until it comes in contact with the metal probe in the sinus, then I take a hot sharp ordinary firing iron and cut out a diamond shaped piece extending from the hole in wall to the hole in the coronet and about 1½ inches wide at the coronary band and cutting down on to the hot iron and metal probe thereby making a superficial wound of it. If I come across any diseased tissue of course I remove it, but in the two cart horse cases I have just had in hand I did not find any to remove. I then syringe the wound with a solut on of corrosive sublimate, put on a pad of damp cotton, bandage it on and let the horse go. Next day I remove the pad and bandage, dress the wound with a solution of permang. of potash and leave the wound bare, and if convenient turn the horse out to grass and leave him to nature for about a week, then take him up, wash the wound, remove any suppurating sloughs and dress it again with solution of permang. pot. or any other antiseptic lotion you may choose to use, and in the course of four or five weeks I generally find the wound filled up and the discharge gradually getting less until it ceases altogether.

This is how I treat them at present, and have been in the habit of doing so now for about eight years. Before then I used to plug them with corrosive sublimate etc., but I think when they are plugged it pens the matter up and it percolates further th ough the tissues making more sinuses.

Having always had stocks to put them in I never threw one yet to operate for quittor. This operation, provided the rope round the leg (a soft cotton rope) is nicely adjusted, is nearly bloodless. I have operated on a great many of these cases during the last twenty years and I am decidedly of opinion that this method of treatment is much superior to the old plan of plugging. I never in any one single case remember having false quarter as a result of the treatment of quittor, but I always find the horn grows down much thicker and stronger than it ever was before.

TWO DOG CASES.

By W. H. Flook, M.R.C.V.S., Weymouth.

Pterygium in a Spaniel.

A spaniel was brought to me with a growth extending from the conjunctiva above to the centre of cornea in a triangular manner, the apex being at above-mentioned centre of cornea. Having painted eye with cocaine (four per cent.) two or three times for a quarter of an hour before, I tried to pick up the growth or a portion of it with catch forceps, my object being to remove an elliptical piece and cut off blood supply (text book). As the growth was soft granulation tissue I could not get any hold, so cut a very narrow strip out of conjunctiva close to it instead. Except the first bottle, which contained a

little cocaine, I applied nothing but boracic acid lotion. In a few weeks the pterygium had disappeared and left the cornea quite clear.

Calcified Prostate.

Some time ago I was requested to attend a big cross-bred dog. I found the animal showing the following symptoms: He would walk a little way and then squat down carefully in a manner I can best describe by saying that one could not judge whether he wanted to pass fæces or to urinate after the manner of the bitch. On passing my finger, which I did with difficulty, per rectum, a tumour as firm as bone was felt below. Prognosis unfavourable, dog died. Post-mortem revealed an enlarged and calcified prostate. Shall operate if I get another case of the kind.

THE BRITISH INSTITUTE OF PREVENTIVE MEDICINE AND THE VETERINARY PROFESSION.

By Jno. Malcolm.

The British Institute of Preventive Medicine have recently been advocating their claims for support from the veterinary profession, but the answer by the profession so far through its various Associations has been, to say the least, somewhat tentative. Perhaps under the circumstances a few remarks on the question may not be deemed out of place. In the first place it may be noted that one after another our Societies at their meetings have with minimal unanimity approved of the objects for which the Institute is being founded. In the next place, following the lead of the Central Society, the National and the other Associations have with almost equal unanimity expressed dissatisfaction with the veterinary representation on the Council of the Institute. All are pleased to see Dr. Fleming on the Council, but all seem to think he ought to be supported by at least one other veterinary colleague, and unless this addition is to be conceded they practically advise us to withhold our support.

Might I venture to suggest that estimable as such an addition to the Council would be, it would undoubtedly be of far greater service to us as a profession if a veterinary expert were appointed upon the active official staff of the Institute, not for occasional consultation but for real work.

The appointment of a veterinarian on the Council is an undoubted recognition of the claims of the veterinary profession, but with all respect I submit that even if the whole Council of the Royal College of Veterinary Surgeons were on the Council of the Institute that would not have the same influence with the scientific world, and would not do our profession so much good in the long run, as a piece of real original scientific work executed by a veterinarian. How would it add to the repute of the veterinary profession for it to be known that a medical officer had investigated a disease of the domesticated animals is inconceivable, but it can be well imagined that the knowledge that a medical officer had accomplished work which a veterinarian ought to have undertaken would detract from it.

If the veterinary profession is to have its proper place assigned to it on this Institute it can scarcely fail to enhance our scientific position, and we as a profession ought to give our ungrudging and most liberal support individually as well as collectively, but if we are to be ignored in the real work of the Institute then I for one shall most strongly advocate that our funds instead of being devoted to the Institute be employed in promoting scientific research by qualified veterinarians. Whatever is accomplished by medical men we may get the benefit of, but certainly not the credit, whereas whatever a veterinarian does we not only get the benefit of but are credited with. If we were a wealthier profession we might afford to be more philanthropic in our views, but situated as we are we stand more in need of assistance than to give it.

The medical profession have their research laboratories and other institutions of various kinds, and the work done therein justly adds in no small measure to the repute of that profession. Is it too much to ask the veterinary profession if the time has not yet come when they too ought to have a research laboratory of their own? Might we not fairly expect that such an institution as in the medical profession would add lustre to the profession supporting it. It may be urged that the cost would be too great, but surely if the Royal College of Veterinary Surgeons and the National and local Associations were to join hands in earnest they are sufficiently powerful to ensure its practical possibility.

TRANSLATIONS.

BEHRING'S RESEARCHES ON THE THERAPEUTICAL PROPERTIES OF BLOOD SERUM FROM "PROTECTED" ANIMALS (BLUTSERUMTHERAPIE).

Trans. by Jno. A. W. Dollar, M.R.C.V.S.

In No. 41 of the *Berliner Thierärztliche Wochenschrift* the first notice of Behring's researches on blood serum therapeutics is given in extenso, and this is now followed by a similar one on a curative material for tetanus (tetanusheilserum). In the beginning of this interesting work the author gives a short description of the tetanusheilserum and the determination of its curative properties.

The curative material, however, obtained and whatever method of conferring immunity be employed, is always in quality (*i.e.* in properties, not strength) identical. According to Buchner normal serum (from perfectly healthy animals) possesses an antitoxic, *i.e.* a poison—destroying quality on the texalbumin of bacteria, but in this connection much has yet to be determined. From various quarters it is announced that the curative material is of the nature of albumen, but the evidence is not yet far

enough advanced for fixed conclusions. At the present time the only test of tetanusheilserum is the living body of an animal suffering from tetanus.

The experimental researches are now finished, and a sufficient experience of the method of application and doses of the substance, for animals and men suffering from tetanus, has been collected to determine the extent of its healing powers. The quantity required for a man suffering from tetanus bears the same relation to that required for a mouse, as their respective bodily weights bear to one another. In order to determine the inimical dose one must carefully take into account the activity of the preparation and the stage of the disease. One can only come to a conclusion regarding the dose when one knows the immunity conferring power. If, however, this power is known in the case of a mouse, it is easy to determine the *curative value* for dogs, horses, etc. It is then a rational course to express the curative power in terms of the immunity giving power. The following examples apply to an infection of white mice with such a dose of tetanus culture or poison as produces death in from three to four days. A certain serum possesses an immunity giving power of 1 ·1,000,000, that is to say, of this serum ·00,005 gramme is sufficient to protect a mouse weighing 20 grammes against the minimal dose of tetanus culture, or a centimetre is enough for 50,000 mice, or ·05 gramme is enough for a 50 kg. sheep, or 1 c.c.m. for 50 sheep, and ·25 gramme of serum suffice for the simple protection of a horse weighing 400 kg.

The dose required for curative purposes is, at the appearance of the earliest symptoms, 1000 times the amount of the immunity-giving dose and this rises with the advance of the disease. A man weighing 100 kg. requires 100 c.c.m. of a serum having an immunity giving power of 1 ·1,000,000. When in the case of advanced disease greater quantities become necessary, and an increase of the quantity injected is not possible, the immunity-giving value must be advanced from 1 in 1 million up to 1 in 100 millions. At the present time, however, Behring advises the use of a serum with an immunity-giving value of 1 in 10 millions. Should he succeed in obtaining a serum of 1 in 100 millions immunity-conferring power he hopes to reduce the mortality from tetanus to 5 or 10 per cent. In different diseases like pneumonia, cholera, typhus, etc., it is to be noted that every disease requires a differently prepared blood. Experiments in the veterinary school have succeeded in producing an immunity conferring serum of 1 to 10 millions strength.

As regards the quantity of serum which can be used in the lighter cases of tetanus in man experiment has shown that doses that fall short of the limit of 100 times the immunity conferring quantity produce no effect. The method of application in cattle is by subcutaneous injection—in the meantime at least. In men the point of inoculation is the thigh or side of the buttock. Behring sterilises the serum with ·5 per cent. carbolic acid or ·5 per cent. carbolic acid and ·5 to ·1 per cent. by volume of chloroform. The author dissents from the opinion of Tizzoni that the material produced from herbivora and carnivora will show a difference in activity. According to him the only difference lies in the concentration of their solutions in the fluids in which they are dissolved. The author further requests that applications for the serum be addressed to Herin Meinhardt, Charité Strasse 1, Berlin. The method of use in man and the conditions of delivery can there be seen.

Behring has made experiments along with veterinary surgeon Casper in the pathological institute of the veterinary college. It was there found possible to so far protect a horse that it did not contract the disease even after the injection of 100 c.c.m. of a culture proved to be very virulent. The following facts, however, show that the injections were not without their effects on the organism. One to two days after the injection there usually resulted a rise in temperature of about 1°C; further, the separation of the serum from the clot (when blood was withdrawn from the vessels) did not take place as in healthy horses in from 12 to 24 hours but at the earliest in from 2 to 3 days, and the clot did not float freely moveable but hung like a net of fibrin threads. Further the quantity of serum which usually amounts to from 25 to 30 per cent. shows in these cases only about 10 per cent. The normal conditions do not return until the 3rd week and then only can one have recourse to bleeding for the purpose of obtaining curative serum. The immunity conferring power of the serum of this animal amounted to 1 in 10 millions.

A sheep was infected with a fatal dose of bouillon culture, On the 4th day the symptoms appeared, temp. 40°C, and 50 c.c.m. of serum were injected. On the 5th day, notwithstanding that on the evening of the day on which the injection was made the temp. was still 40·5°C. the symptoms had almost disappeared. On the 10th day 40·2°, general appearances normal. Further researches showed that in sheep the serum was sufficient for the cure of tetanus which was beginning.

The experiment on a horse was very interesting. The animal was inoculated on the 16th September with 2 c.c.m. of a tetanus culture. On the 19th September it showed distinct tetanic symptoms. The tail was held stiffly in the air and there also existed trismus. On raising the head the membrana nictitans covered more than half the globe, whilst in healthy horses the membrana nictitans does not advance further than the corner of the eye even when the head is raised. Behring regards this symptom as an excellent means of determining the intensity of the disease.

As in such a case at least 500-800 c.c.m. of serum would be required for a horse weighing 400 to 500 kg. and as such a quantity was not to be had about 700 c.c.m. of fluid blood which remained over was injected by means of the transfusion apparatus for cholera patients, which was put together in the Institute for infectious diseases.

In this manner 400 c.c.m. of blood were injected on the 19th September, on the 20th September 300 c.c.m. and on the 21st September 300 c.c.m. of serum. On the 21st September the symptoms had come to a standstill, and on the 27th September the

animal was quite healthy. So far the possibility of curing tetanus in horses is demonstrated though one must bear in mind the early beginning of the treatment.

The further setting forth of the expectations which this method of treatment justifies must be read in the original. — *Berliner Thierärztliche Wochenschrift, 5th Jan.*, 1893.

[In the B.T.W. for the 5th January are given the results of 51 protective inoculations made by Military Vet.-Surgeon Hell against the thoracic form of influenza (brustseuche) in which in spite of favourable opportunities, none of the inoculated animals contracted the disease. Also in the next number of the same periodical is an account by Vet.-Sergeon Toepper of 60 inoculations. None of the animals so treated contracted the disease although exposed to contagion. The results are not given in detail, and as the experiments only allow of negative conclusions I have not thought them sufficiently interesting to give at full length. *Trans.*]

Royal College of Veterinary Surgeons.

FELLOWSHIP DEGREE.

An examination for the above degree was held in London on the 26th January, 1893, when the following gentlemen were admitted Fellows of the Royal College of Veterinary Surgeons:—

Vety.-Capt. F. Smith
Vety.-Lieut. H. M. Maxwell
E. C. Winter, Limerick
Vety.-Capt. S. Longhurst
E. S. Gubbin, Glossop, Derbyshire
J. McKinna, Huddersfield
F. Leigh, Bristol
J. Armstrong, Penrith, Cumberland
Thos. Aubrey, Bath

ARTHUR W. HILL, *Sec.*

[We regret the tardy appearance of this intimation—just a month after date—but the notice only came to hand on the 21st inst.]

EXTRACTS AND NOTES.

THE SALE OF POISONS.

THE PHARMACEUTICAL SOCIETY v. PIPER AND CO.

This was an appeal by the Defendants, grocers, carrying on business at Pimlico, from the decision of the County Court Judge at Bloomsbury, and raised a very important question under the Pharmacy Act, 1868. The action was brought by the Pharmaceutical Society to recover penalties from the Defendants for having kept a shop for retailing and dispensing an article called "chlorodyne," which contained a preparation of opium, &c. Under the Act of 1868 no person but a chemist and druggist could sell any of the poisons enumerated in the schedule of the Act, which includes opium; and the question raised by the appeal was whether a compound or a mixture which contained as one ingredient a small portion of one of the poisons specified in the Act was a compound or a mixture which could only be sold by a chemist or druggist. The County Court Judge held that it was, and gave judgment for the Pharmaceutical Society. Against that decision the Defendants now appealed.—Mr. Bonsey appeared for the Defendants in support of the appeal, while Mr. Poland, Q.C., and Mr. Grey opposed it on behalf of the Pharmaceutical Society.

At the conclusion of the arguments Mr. Justice Lawrance said he had considered whether an unqualified person could sell proprietary medicines containing poison, and he had come, not altogether willingly, to the conclusion that such a person could not. He was also of opinion that proprietary medicines were not exempted from the Pharmacy Act. The only patent medicines which were exempted were those which were protected by letters patent.

Mr. Justice Collins concurred. He said the two questions the Court had to consider were whether the compound in question was a poison within the meaning of the Pharmacy Act, and whether it was a patent medicine, and therefore exempted from the operation of the Act. It was found in the case that the compound contained a preparation of opium, and a preparation of chloroform, both of which were poisons mentioned in the schedule of the Act. Chlorodyne was a compound into which poison entered as one of the ingredients, and on that ground it came under the designation of "poison" as dealt with by the Act. The Act applied to something more than the actual poison named in the schedule, or a preparation of it. In other words an article might he poisonous which did not consist conclusively of the poison itself. As to whether chlorodyne was a patent medicine, and therefore exempted form the operation of the Act, he was of opinion that only medicines which were protected by letters patent, and not proprietary medicines generally, came with the exemption.

The appeal was dismissed accordingly, with costs.

Mr. Bonsey applied for leave to take the case to the Court of Appeal.

Mr. Justice Lawrance said leave would be given.

TUBERCULOUS MEAT IN GERMANY.

Of the official Orders perhaps none is more important than that concerning the flesh of tuberculous animals, dated March 2nd, 1892. This document considerably modifies the preceding Order of Sept. 15th, 1887. In the most recent Order the flesh is stated to be dangerous to health when it contains tubercles or when the animal is wasted, even though no tubercles exist in the flesh. On the other hand, the flesh of such animals is declared to be fit for food when the animal is well nourished and (1) the tubercles are found in only one organ, or (2) in case several organs are tuberculous, when the tubercles are contained in the same cavity and are connected with each other directly or by lymphatics, or by such vessels as do not belong to the general circulation, but to the portal or pulmonary circulation. This is a very important statement when we consider that it emanates from a Government which has devoted more attention to the subject than perhaps any other. A further paragraph is to the following effect: "As a fact, the occurence of tuberculosis of the muscles is extraordinarily rare, and the experiments carried on for years on a large scale at the Veterinary College, Berlin, and at several Prussian Universities, with a view to producing tuberculosis by feeding animals with the muscular tissue of tuberculous animals,

have given essentially negative results. Hence there it no proof of the communication of tuberculosis by the consumption even of flesh actually containing tubercles, and there is no reason why the flesh of well-nourished animals, even when they come under Clauses 1 or 2 above, should be regarded as of inferior value. Hence it is in future to be allowed to be sold without any restriction."—*The Lancet.*

TUBERCULOSIS IN LONDON.

The veterinary inspectors of the London County Council have recently completed an inquiry at all London cowsheds with a view to finding out to what extent tuberculosis in cows prevails in London, and have reported that, although only a few cases have been discovered, they have reason to believe that a much larger number would have been found had the law allowed of a more thorough examination. The Public Control Committee reports upon this that under the law as it stands at present the sale of the milk of animals affected with the disease cannot be prevented, and the sale of the flesh can only be stopped under Section 47 of the Public Health Act as being unfit for human food. There is reason to fear that in the majority of cases the flesh finds its way into the market, and is largely sold amongst the poor. The sale of the milk being under no restrictions whatever must cause serious mischief to health. Instructions have therefore been given to the inspectors to urge owners, when they meet with cases of tuberculosis, to have the diseased animals slaughtered and destroyed, and to apprise local medical officers of health of the fact, in order that all necessary measures may be taken to prevent the sale of the flesh. But, as it appears that the evil can only be effectually dealt with by bringing tuberculosis in cows under the operation of the Contagious Diseases (Animals) Acts, the committee is asking the Board of Agriculture to make an order for that purpose; and if this is done expresses its confidence that the sale of the diseased milk and flesh can be prevented.—*Daily Chronicle.*

Mr. Herbert Gardner received at the Board of Agriculture on Friday a deputation from the London County Council, asking for powers to slaughter cows affected with tuberculosis and to give compensation to the owners out of Imperial funds. The President was accompanied by Mr. T. H. Elliott, Professor Brown, C.B., and Mr. A. W. Anstruther. Dr. Bott, the Chairman of the Public Control Committee of the Council, in introducing the subject, said that their inquiry in the London cowsheds had brought out the fact that there were many animals actually diseased, and that the milk of these animals during their life and their flesh after they were slaughtered were sold as human food. To what extent the flesh of tuberculous animals was inimical to human life remained, perhaps, to be determined by the Royal Commission on Tuberculosis now sitting, but the question appeared to the Council to be of such importance, and of considerable danger to human life, that they trusted the report of the Commission would not be much longer delayed. Dr. Collins, the vice-president of the committee, said they believed the evil could only be effectually dealt with by bringing tuberculosis in cows under the operation of the Contagious Diseases (Animals) Act. Mr. Herbert Gardner, in reply, said that all matters concerning the public health properly belonged to the Local Government Board. That was the central authority to which local authorities must look when they desired to prevent the sale of food, whether meat or milk, which they considered unfit for human consumption. It was certainly desirable before they had legislation of a general character dealing with the meat and milk of animals suffering from tuberculosis that they should await the report of the Royal Commission on the subject. The deputation suggested that he should empower local authorities to slaughter animals affected and compensate the owners. The Board might give a local authority power to do certain things, but it was doubtful whether that local authority would do them. The London County Council had recently been given power to get rid of glanders and farcy, but the Council had been unable to screw up its courage, or perhaps unwilling to unbutton their pockets, in order to carry out this very desirable object. However, if any local authority determined that there was a case for the expenditure of the ratepayers' money he should be glad to assist it in any way; or they might obtain the power of dealing with the matter by a private Bill. Compensation from the Imperial funds would have to be settled by legislation.

The FitzWygram Prizes.

We have received the following notification:—

HOUSE OF COMMONS.

"Lieut-Gen. Sir F. FitzWygram proposes to give his Veterinary Prizes as usual in 1893—the conditions will be much the same as last year.

Believe me, truly,

Feb. 17th. F. FITZWYGRAM.

A Calf with Two Heads.

Mr. Wilson, V.S., Darnley Road, has called attention to a remarkable freak of nature which has occurred in his practice. On Friday, the 27th ult., a cow, the property of Mr. Joseph Solomon, of Singlewell, located at Dubs Place Farm, near Cobham, gave birth to a calf possessing two perfect heads and necks joined to one body having the usual number of legs and one tail. The animal did not survive its birth, but Mr. Wilson found on making a post-mortem examination that the heads were well developed, each having the usual number of teeth, &c. The æsophagus or vessels through which the food passes, joined together about an inch before reaching the stomach, while the tracheas or windpipes, were entirely separate, one joining the right and the other the left lung. Portions of these were sent up to the Royal Veterinary College, Lon-

don, and the authorities there considered it such an unique specimen that they desired the whole of the carcase to be forwarded to be preserved and mounted for the College Museum.—*Gravesend and Northfleet Standard.*

"INFLAMMATION" IN EWES.

A meeting of the Gala Water Farmers' Club was held in Russell's Hotel, Stow, on Saturday, Mr. Thomas Gibson, Torwoodlee, presiding. Mr. Boyd, V.S., Melrose, read a paper on "Inflammation" in Ewes.

He said:—My paper, as you are aware, is entitled 'Inflammation in Ewes.' Inflammation is, however, a wrong name, for there is no inflammation at all. The proper and technical name of the disease is septicœmia, meaning a septic or putrefactive condition of the blood. The definition of septicœmia is a condition produced by the absorption or introduction of putrescent matter into the system. In cattle and sheep it is seen after parturition, and manifested by great prostration, collapse, fluttering pulse, violent straining, and expulsion of a coffee-coloured fluid from the uterus.

Septicœmia, like many other diseases, in due to the presence of a distinct organism, viz., the bacillus of septicœmia. These bacilli have what are called spores, or, in other words, seeds of bacilli. These spores can lie dormant for a long period, till they are disturbed and set floating in the atmosphere, when, if they come in contact with suitable media and surrounding circumstances, they reproduce the disease.

We frequently hear of some farms being visited with the so-called inflammation in ewes every year as regularly as the lambing season comes round. The reason is that the place where the ewes are lambed is contaminated; the germs of the disease are in the place or building, and as soon as they are set in motion by the movements in the place, a suitable medium is soon found in the uterus of the ewe. More disease is again produced, and every time the disease is produced there is always a fresh crop of germs left behind.

It must be born in mind that the generative organs at the time of parturition are in a state of great openness—in a state ready to receive any germs that may be floating about in the surrounding atmosphere. It must also be kept in mind that the uterus of an animal at the time of parturition is a most perfect incubator. For instance, the discharges natural to the time of parturition make a perfect medium, and the natural animal heat of the uterus, and its good blood supply, complete the process.

Every year I am more and more convinced that lambing-sheds, especially permanent lambing-sheds, are the great cause of the disease. A stock lambed in a lambing-shed may escape for a few seasons, but, depend upon it, that shed will become contaminated, and it can't help it, unless some exceptional process of cleansing is practised. Let me ask what comes of all the cleansings and discharges, such as blood, &c., natural at the time of parturition. They must decompose, they can't remain healthy, and hence we have the first fruits of the disease. Again, I maintain that lambing-sheds are foreign and antagonistic to the nature of the sheep, more especially the small spaces you see allowed for a ewe and lamb. An animal whose nature is to roam at will is, as it were, shut up in prison and forced to contract whatever disease may be within. We are all apt to think that we can improve upon nature, but nature will have none or our interference. If we do try our hand at improving, our work only disturbs the laws of nature, and the end is disaster. It would be well for us always to remember that our place here is to assist nature, and nothing more.

Regarding prevention, I would do at the beginning of the lambing season what is always done when an outbreak of the disease occurs in a lambing-shed, viz., lamb the ewes in an open field, putting up such temporary shelters as may be necessary for inclement weather. I am convinced, if this were done, the air and the natural scavengers of the earth being allowed a chance at the decomposing animal matter, that the so-called inflammation in ewes would soon be a disease of the past. If treatment is to be pursued it must be prompt, and at the very outset of the disease. Some say they have used carbolic oil beneficially, others say the opposite. Bacteriologists tell us that bacilli may be submerged in a very strong solution of carbolic acid for several hours, and when withdrawn from that solution the bacilli are without hurt, and produce disease as readily as before they were submerged. Again we find, of all the agents in the pharmacopœia, perchloride of mercury is the best germicide. A very weak solution of perchloride of mercury is almost an instant destruction to organisms. In the treatment of the disease we must keep in mind that we have a germ to destroy and pain to allay. It must also be marked that whatever is used must be of some consistence, as watery solutions remain too short a time on the part to which they are applied. A dressing composed of perchloride of mercury, chloroform, and olive oil is the best, the dressing to be used four times daily to the uterus. Regarding the healthy part of the flock, I would make it imperative that the shepherd smeared his hands with the above mixture every time he had occasion to lamb a ewe, and also smear all the outside parts of the ewe when he is finished.

An interesting conversational discussion followed, the members generally expressing their cordial agreement with the views set forth in the paper. On the motion of Mr. James White, Stagehall, Mr. Boyd was awarded a hearty vote of thanks for his paper.—*The North British Agriculturist.*

Magnets and the Nervous System.

Fred. Peterson and A. E. Kennelly (Chief Electrician, Edison Laboratory) have made experiments (*N. Y. Med. Journ.*, December 31st, 1892) with the most powerful magnets in that laboratory with the view of ascertaining whether they exerted any influence on the animal organism. Benedikt has asserted that the magnet increases the resistance to conduction in the motor nerves, and, like Proust and Ballet, has expressed the opinion that powerful magnets could not be used with impunity, since, if their use was prolonged, they gave rise to thoracic pain, difficult respiration, and disorders of digestion. Observations were first made under the microscope, the slide being placed within the magnetic field of a very powerful electro-magnet (5000 C.G.S. to the square centimetre). Iron in its finest divided form (hydrogen process) was attracted, and when placed in water was polarised, but dry powdered hæmoglobin was not visibly affected. Blood placed on a slide in the magnetic field failed to show the feeblest traces of polarisation, movement, or vibration. No effect was produced upon the movement of living cilia from the pharynx of the frog, nor upon the circulation in the web of the frog's foot. A cylinder, 2 feet in diameter, and 7 inches deep, upon which a set of field magnets converged, was next used to test the assertions as to the effect of magnetism in retarding conduction in motor nerves. A dog was introduced into this cylinder, and for five hours remained under the influence of a magnetic field with an intensity of from 1000 to 2000 C.G.S. to the square centimetre. The dog was in no way affected, and was very lively when liberated. A photograph is given of a boy sitting in this cylinder while the magnets were in action. He was in no way affected. The next experiments were made by

introducing the head into the field of a powerful electro-magnet (2500 C.G.S.). The current could be turned on or off the coils of the electro-magnet without the knowledge of the subject. No effect on consciousness, sensation, circulation, respiration, or tendon reflex could be perceived. The subject was quite unable to say when the current was turned on or off. The last series of experiments were made with an electro-magnet in which the current was reversed 280 times a second. No effect whatever was perceived when the head was introduced within the magnetic field of this instrument. The authors conclude that the human organism is in nowise appreciably affected by the most powerful magnets known to modern science; that neither direct nor reversed magnetism exerts any perceptible influence upon the iron contained in the blood, upon the circulation, upon ciliary or protoplasmic movements, upon sensory or motor nerves, or upon the brain. The authors further observe that they find it difficult to understand why magnetism appears to have no influence whatever upon the human organism.

Pasteur and the Frog Story.

A circumstantial story has been widely circulated, which was first printed by Madame Carette, that during the visit of M. Pasteur, at Compiègne, to the Empress Eugénie, great disturbance was caused by a sudden rush of frogs from his apartments, which had been collected by him for purposes of experiment, and heaped up in masses in his room, from which they escaped. The story was in itself improbable, but as it is only a revival of one to which currency has before been given, and as it is being used to produce an obviously unjust and prejudiced impression for purposes which it is easy to comprehend, we have thought it well to make a direct inquiry as to the facts. M. Pasteur writes, to the friend through whom we made the inquiries, as follows: "This story of the frogs, which is circulating in the English press, is not at all a new one. It is to be found, I am told, in a book of recollections published by Madame Carette, formerly a reader to H.M. the Empress Eugénie. It is by mistake that my name has become mixed up with it. The hero is no other than the celebrated physiologist, Longet. His room was next to the one which I occupied as a guest at the Castle of Compiègne. The Empress having expressed a wish to see the circulation of the blood, M. Longet, after having collected several frogs caught in the Imperial park, had shown the phenomena to Her Majesty and her guests, reproducing a physiological experiment which is classical. Several days after, it happened that someone discovered in my *confrère's* room one of the frogs which he had kept in reserve. That is all that I recollect about it. My proximity with M. Longet explains how it has been possible to attribute the adventure to me."—*Brit. Med. Journal.*

A "Veterinary" Chemist.

We copy the following from *The Banffshire Journal*

KEITH—188, MID STREET.

IMPORTANT TO FARMERS.

WILLIAM GARROW, CHEMIST, has much pleasure in intimating that having beside him "VETERINARY COUNTER PRACTICE," a work compiled by the most eminent and experienced Veterinary Surgeons on the best Treatment for Accidents and all the common ailments incident to CATTLE, HORSES, and SHEEP, also, M'Gillivray of Rayne's "Veterinary Science and Practice," etc., and as these works are free to be consulted by all, W. G. begs to point out to his Friends and Stockowners generally the special value of having such ailments treated at once under the skilful direction of the authorities referred to, as it will be sure to save much subsequent loss and trouble.

The Police and the Dogs.

According to the monthly return of the police, issued on Wednesday, it appears that they seized 2170 stray dogs during January in the streets of the Metropolis. Many of the dogs were afterwards removed to the Home at Battersea, but out of the total number caught only 269 dogs were afterwards owned. The return further states that eighty-five persons, including three policemen, were bitten in the course of the above period. Five dogs suspected of being mad were killed by the police, but upon examination at the Veterinary College it is satisfactory to hear that no case of rabies was discovered.

Foreign Eggs.

There was a time when all foreign eggs in this country were known as "French eggs." Now, thanks to improved means of transport, they come to us from a variety of countries. The annual import, according to the latest Official Returns, reaches the enormous number of nearly thirteen hundred millions, valued at three-and-a-half millions sterling. France and Germany still furnish more than one-half of the whole; Belgium, Russia, and Denmark, come next in order as egg exporters to this country. The Canadian quota has increased from two millions to twenty-three millions in a single year, and we have now laid under contribution a variety of minor sources—among which, it is curious to note, are the Canary Islands, Turkey, and Egypt.

CORRESPONDENCE.

VETERINARY SOCIETIES AND THEIR OFFICERS

SIR,

I read with considerable interest the account in a recent issue of the sayings of the Yorkshire Society and their friends, and the glimpse of the internal workings thus afforded, and personally, I was even more interested in the remark on your front page as to the part to be played by the hon. sec. in the coming rejuvenescence. Up to now I have entirely failed to comprehend the attitude frequently taken by some members towards their hon. sec. in more than one Society I know of; and I should like to ask why is it that as soon as a member takes up the duties of that office he comes to be regarded as a sort of Pariah. Does any little oversight come to view, or any trifling clerical error appear, there are a dozen men waiting their turn to "just point it out"—like so many old women. Should the hon. sec. presume to bring forward any view of his own, or endeavour to get any action taken by the Society in some particular direction, the chances are that he is either "sat upon" forthwith—if he is sufficiently mild mannered to take to that process—or the subject is shelved, and carefully kept there. Often too he is incontinently burdened with the blame of all the evils that happen to the Society under the guidance of an indifferent President, or if the Sec. be the better man of the two—as is sometimes the case—and is also energetic, the Society is kept together and strengthened by his endeavours, in return for which he gets perhaps a lukewarm vote of thanks at the annual meeting, and if he is a sensitive man carries home with him the galling conviction that not a quarter of the members value his labours, that next to none give him

any sort of help, whilst nearly all are ready to find fault.

If the members of these Societies want a scapegoat to kick at, why the deuce do they not *pay one* to take the kicking as well as do the work, instead of maltreating one of their own members, and possibly one of the best at that.

I say that a Society is no less indebted to its Hon. Sec. than to its President. It is well, as our Yorkshire and Lancashire friends point out, that the President should be a man of some note in the profession, that he should possess social attributes, and—alas for our lofty and fine drawn aspirations—it has to be confessed that he is thought all the more of if he can afford a "good spread," but he comes into action only occasionally during his year of office. Now your Secretary requires a different set of qualifications. Pleasant manners, indeed, are of as much value in the Hon. Sec. as in the President, but that is I think the only attribute that is equally necessary in both officers. For the rest, he should be careful and exact, prompt and punctual, and except in those few Societies which hibernate for six months or more, there is almost always something to be done to keep things going and to keep himself "forehanded" with his work. Now although most men in the profession look upon these little matters as sort of every day "ornery" capacity, there are few of us who have moved about but can call to mind the difference brought about in the life and "go" of some Society by the exchange of "a slug," for a man of these same "ornery" capacities and the sense and energy to use them.

Need I say more? Let us then, I say, give to our Hon. Secs. more considerate treatment than some of our number do at present. Let us learn to look on them as of equal importance to the President, and take care when we do get a good man in that office to make things pleasant for him and try to keep him there. Then mayhap we shall not see the office of Hon. Sec. punted about like a football until it lands on the shoulders of some "incapable" as we now sometimes do.

We have to thank *The Record* for some relief to our labours, for a shorthand reporter is getting to be quite the usual at our meetings since you have given us the opening, for an early publication of our reports.

In conclusion, Mr. Editor, I must apologise for occupying (or attempting to occupy) so much of your space with a personal growl, and also for not signing my own name. In this I see I am by no means singular in your pages, although I fancy I can claim in this case more reason for my action than most of your contributors.—Yours,

"A GALLED JADE."

MILK FEVER.

SIR,

With regard to the difference between parturient apoplexy and fardel bound, my statements no doubt were misleading, but as I was dealing entirely with the former I did not go fully into fardel bound.

I remember when magnesium sulphate was the "proper" treatment for fardel bound, and it was not successful. The more I see of this drug the less I like it, and I am sure this is the opinion of many veterinary surgeons.

"Old Hand" says I am evidently at sea about fardel bound, and endeavours to explain the pathology of the disease but does not say anything about the cause. Inflammation of the third stomach is certainly rare, but is "Old Hand" aware that impaction of the third stomach is primarily due to gastritis or inflammation of the fourth or true digestive stomach; and that it is nature's mode of preventing that stomach from being worked when it is in that state. Then if the fourth stomach be inflamed surely salts is the worst possible drug that could be given. With regards to the symptoms of fardel bound, the "grunt" is a sure guide. The temperature also is generally high. The treatment which never fails, is belladonna in one dram doses.

About the treatment of milk fever, surely I said (this in reply to "Old Hand), that electricity should be used. The sedative treatment undoubtedly keeps an excess of blood from going to the brain, by relaxing the tissues and thus relieving the pressure on the brain.

"Vet." says that he thinks that fat globules in the blood are the cause of milk fever by causing embolism" of the brain. If that be the case surely we should also have fatty embolism of every organ in the body, the lungs included, and also continued embolism of the brain for it would take the globules a long time to pass through the small capillaries of the brain. Perhaps he thinks that milk is formed from fat globules in the blood. That is not so; for the mammary gland has the power of forming the fatty part of the milk from the materials supplied by the blood and the fatty part of the milk does not pass direct from the blood into the milk gland. "M.R.C.V.S." says that one argument against this theory of milk fever is that as the cow gets older and departs from that state of maturity she becomes less liable to the disease. I can quite see that, as when a cow is mature, she has a full supply of blood, thus the full amount of blood will have to be used by the brain, whereas when the blood is not in such quantity (decreasing as she gets older) less blood has to be used by that organ and thus less work for that organ.

CHARLES WARD.

FELLOWSHIP DEGREE.

SIR,

In your valuable journal of last week Messrs. Garnett, MacDonald, Reakes and Gilruth formulate a plan of examining would-be Fellows. I am much surprised that they had not the common courtesy to acknowledge that I was the originator of their elaborate scheme.

In *The Record* of January 7th, page 371, the following can be seen:—

FELLOWSHIP DEGREE.

By J. GREGG, Lisburn.

None of the writers on this subject latterly have, in my opinion, said anything that is likely to solve the problem. The problem is to have the right men in the right place, viz. to have men that are known and respected by the profession at large made Fellows. Therefore the Council are the proper party to confer the degree, as they are, or should be, an essence of the mind of the profession. *Then given* that a man is duly eligible and nominated for the Fellowship Degree let him come before the Council and read a thesis and defend same, and if a majority of that Body decide in his favour by ballot, let him be crowned with the coveted honour.

My idea was to leave the working out in the hands of the more mature minds of the Council, was it not the wisest?—Sincerely yours,

JAS. GREGG.

Lisburn, 14th February, 1893.

"ILLEGITIMATE COMPETITION."

SIR,

Such was the heading of an editorial note in your issue of February 4th. You then said "Agricultural Colleges and County Councils pretend to teach the owners of stock not only how to prevent but how to cure disease, and the veterinary expert seems likely to be superseded

by the man who can talk the loudest and promise the most."

From the enclosed cutting I should judge that Mr. T.——, does not intend to allow his light to shine under a bushel; and I should like to ask—has lecturing as a private enterprise anything more commendable about it than when under the patronage of an Agricultural College or County Council?—I am, yours, etc.,

MANCHESTER VET.

Mr. T.—— Veterinary Surgeon, is, I understand, to give a series of lectures at Gatley on subjects of special interest to farmers and others having dealings with cattle, etc. The topics to be handled include:—Consumption in cattle, sheep, pigs, and horses with some remarks relating to the use of the milk and flesh of the tuberculous cows; contagious pleuro-pneumonia, anthrax, swine fever, milk fever, etc. The Vicar of Gatley (Rev. J. Bruster), recognising the importance of the subjects to be treated has consented to the use of the Church School-room for the lectures. The first lecture is this week (Thursday), and the others follow weekly.

REJECTED CANDIDATES.

SIR,

Can a student who has been rejected three times for his final, present himself a fourth time?

IGNORAMUS.

[As many times as he likes.—ED.]

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Sir F. FitzWygram, Messrs. C. Ward, J. Malcolm, E. W. Hoare, W. Stapley; W. B., "Manchester Vet." "Banffshire Journal."

Veterinary Societies—Addresses.

BOMBAY V.M.A.

Pres: Capt. Jas. Mills, M.R.C.V.S.
Vice-Pres: Messrs. N. D. Dhakmarwalla, V. E. Vakharia, G.B.V.C., S. G. Haji, S. N. Ranina, G.B.V.C.
Sec: S. K. Nariman, M.D., B. SC., L.V.SC.
Off Hon. Sec: Mr. J. D. Parokh, G.B.V.C., Bombay Vet. Coll.

BORDER COUNTIES V.M.S.

Pres: Mr. R. Rutherford, F.R.C.V.S., Edinburgh
Hon. Sec: Mr. J. Armstrong, M.R.C.V.S., Penrith, Cumberland
Meetings, Second Friday of Feb., June, and October.

CALCUTTA V.M.A.

Pres: Mr. Greenhill, M.R.C.V.S.
Hon. Sec: Mr. T. Assheton Smith, 156 Dhurrumtollah.

CENTRAL V.M.A.

Pres: Mr. W. Roots, M.R.C.V.S.,
13 Winchester Street, London, S.E.
Hon. Sec: Mr. H. G. Rogers, M.R.C.V.S.,
170 Brompton Road, London, S.W.
Meetings, First Thursday in each month, except August and September, 10 Red Lion Square, Holborn, at 7 p.m.

EASTERN COUNTIES V.M.A.

Pres: Mr. F. Low, M.R.C.VS., Norwich.
Hon. Sec.: Mr. W. Shipley, Jnr., Southtown, Gt. Yarmouth
Meetings, Second Tuesday, Feb. and July.

VET. MED. ASSN. OF IRELAND.

Pres: Mr. T. D. Lambert, F.R.C.V.S. Store Street, Dublin.
Hon. Sec Mr. J. McKenny, M.R.C.V.S.,
116 Stephens-green-west, Dublin.

LANCASHIRE V.M.A.

Pres: Mr. A. Taylor, F.R.C.V.S, Turner Street, Manchester.
Hon. Sec: Mr. J. B. Wolstenholme, M.R.C.V.S.,
Quay Street, Manchester.
Meetings, 2nd Wednesday in March, June, Sept., & Dec.

LINCOLNSHIRE V.M.S.

Pres: Mr. T. E. Smith, M.R.C.V.S., Market Rasen
Hon. Sec: Mr. J. Smith, M.R.C.V.S., Huntingdon.
Meetings, Second Thursday, Feb., June and October.

MIDLAND COUNTIES V.M.A.

Pres: Mr. F. W. Barling, M.R.C.V.S., Ross, Hereford
Hon. Sec: Mr. H. J. Dawes, M.R.C.V.S.,
High St., West Bromwich.
Meetings, Second Friday in Feb., May, November, Second Tuesday in August.

NATIONAL VET. ASSOCIATION.

Pres: Mr. E. Faulkner, M.R.C.V.S., Manchester
Sec: Mr. John Malcolm, F.R.C.V.S., Birmingham
Sec. of Prov. Com:

NATIONAL VETERINARY BENEVOLENT & MUTUAL DEFENCE SOCIETY.

Pres: Mr. Peter Taylor, F.R.C.V.S., Manchester
Treas: Mr. Thomas Greaves, F.R.C.V.S., Manchester
Hon. Sec: Mr. Sam. Locke, M.R.C.V.S.,
Grosvenor Street, Oxford-st., Manchester

NORTH OF ENGLAND V.M.A

Pres: Mr. W. Hunter, M.R.C.V.S, Newcastle.
Hon. Sec: Mr. W. A. Hancock, M.R.C.V.S.,
Forest Hall, Newcastle-on-Tyne.
Meetings, Third Friday, Feb., May, Aug. and Nov.

ROYAL COUNTIES V.M.A.

Pres: Mr. J. D. Barford, F.R.C.V.S., Southampton.
Hon. Sec: Mr. J. Sutcliffe Hurndall, M.R.C.V.S.,
Sussex Villas, Cornwall Gardens, South Kensington.
Meetings, Last Friday, Feb., June and Nov.

ROYAL SCOTTISH V.S.

Pres: Mr. Reid, M.R.C.V.S., Auchtermuchty.
Hon. Sec: Mr. W. D. Fairbairn, M.R.C.V.S., Cupar, Fifeshire

ROYAL VETERINARY COLLEGE M.A.

Pres: Mr. Wild.
Hon. Sec: Mr. T. F. Wilson. *Assist. H.S.* Mr. E. E. Seldon.

SCOTTISH METROPOLITAN V.M.S.

Pres: Prof. W. O. Williams, F.R.C.V.S., New Vet. Coll., Edin.
Hon. Sec: Mr. P. Moir, M.R.C.V.S., 9 Kilmain Terr. Edinbro'

SOUTH DURHAM AND NORTH YORKSHIRE V.M.A.

Pres.: Mr. F. R. Stevens, M.R.C.V.S., Darlington.
Hon. Sec: Mr. W. Awde, F.R.C.V.S., Stockton-on-Tees.
Meetings, First Friday, Mar., June, Sept. and Dec.

SOUTHERN COUNTIES V.M.S.

Pres: Mr. J. F. Simpson, F.R.C.V.S, Maidenhead.
Hon. Sec: Mr. C. Pack, M.R.C.V.S., Lymington, Hants.
Meetings, Last Thursday, Mar., June and Sept.

SOUTH WALES AND MONMOUTHSHIRE V.M.A.

Pres: Mr. D. M. Storrar, M.R.C.V.S., Abergavenny.
Hon Sec. Mr. A. C. Stewart, M.R.C.V.S., Cardiff.
Meetings, First Thursday in March, and Autumn.

WESTERN COUNTIES V.M.A.

Pres: Mr. G. H. Elder, M.R.C.V.S., Taunton, Somerset
Hon. Sec: Mr. W. Harvey Bloye, M.R.C.V.S.,
Ebrington Street, Plymouth.
Meetings, Third Thursday, March and September.

WEST OF SCOTLAND V.M.A.

Pres: Mr. D. Allan, M.R.C.V.S., Clarkston-by-Busby, Glasgow
Hon. Sec: Mr. W. Anderson, F.R.C.V.S., West Nile-st. Glasgow

YORKSHIRE V.M.A.

Pres; Mr. G. E. Bowman, Woodhouse Lane, Leeds.
Hon. Sec; Mr. W. F. Greenhalgh, M.R.C.V.S.,
110 North Street, Leeds.
Meetings, Last Friday in Jan., April, July, and October.